

## What temperature means (i)

**Temperature is measured accurately with a thermometer placed in the shade. But we often talk about hot and cold without thinking about a thermometer. So what do we mean when we talk of hot places and cold places?**

**Q1.** What temperature (°C) do you think of as hot? Mark it on the thermometer.

**Q2.** What temperature (°C) do you think is warm? Mark it on the thermometer.

**Q3.** What temperature (°C) do you think is mild? Mark it on the thermometer.

**Q4.** What temperature (°C) do you think is cold? Mark it on the thermometer.

**Q5.** Write down why you chose your temperatures.

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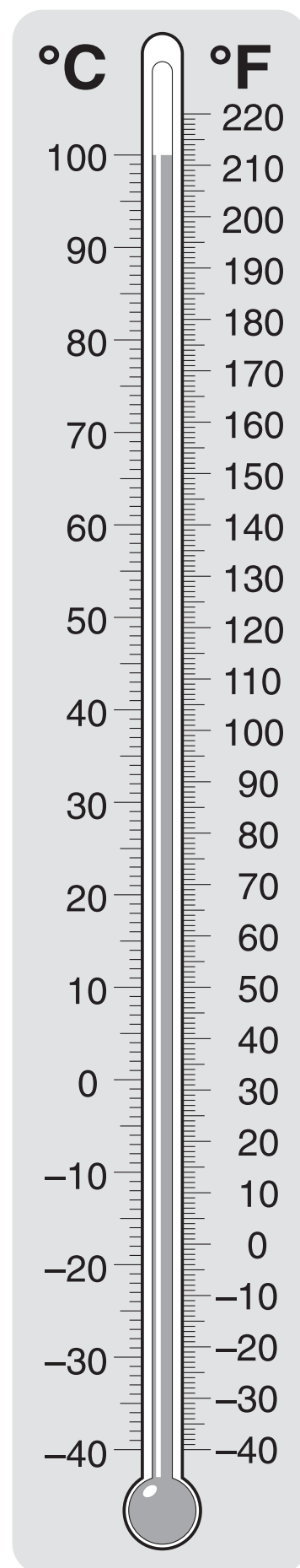
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## Background

### Thinking about temperature

Temperature is perhaps the most important measurement of the weather that we can use.

You may like to get the class used to thinking about temperatures by asking what the temperature for freezing is, and marking that on the thermometer.

You could tell the class that we know that the temperature is freezing (0°C) because water changes to ice, frost forms and so on. Here we have a very accurate way of telling what the real temperature is.

But people often talk of hot, warm, mild and cold. You hear this on the television and radio reports daily.

By asking students to mark what they think of as hot, warm, mild and cold, we are challenging them to think about the context of the remarks.

We actually use these words relative to our experience of what conditions are like on average for the time of year and for the location we are in. So, without realising it, we use our experience to tell us about a climatic value – the average temperature for that time of year. So warm in summer would not be the same as warm in winter. A warm winter's day might be 10°C, but a warm summer's day might be 20°C.

Let students compare what they have each done and then argue the case for what they have put. You may care to ask them what hot weather would be if they were in a tropical place where the average was 27°C.

### Thinking about heat and health

The last section of the spread also begins to explore the relationship between heat and health. For example, hot, muggy conditions can lead to heat exhaustion and heat stroke. Heat stroke can occur if the temperature of the blood rises above 39°C/102°F and can cause confusion, incoherent speech, convulsions, organ damage and possible death. Cold conditions can lead to hypothermia.

The World Health Organisation recommends a maximum air temperature of 24°C/75°F for workers to work comfortably. A minimum of 16°C/61°F is recommended for office workers with sitting jobs.

You could extend discussion of the worksheet by asking students to say which temperatures on their thermometers were dangerous for health. You may wish to introduce the idea of windchill now or come back to temperature when you are studying wind later in the book.